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Research to Practice: What a Failed Intervention Taught Me About Needs Assessments

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Since the turn of the century, reformers have advocated for new models of instruction to equip students with *21st-Century Skills* — creativity, critical thinking, communication, and collaboration (Soulé & Warrick, 2015) — and with the habit of engaging in *deeper learning* — defined here as the process of developing expertise within a domain of knowledge and then demonstrating the ability to transfer that knowledge to a new context (National Research Council, 2013).

But there are at least two challenges to implementing new models. First, education reforms often adapt to fit within the confines of an existing institution rather than challenge the tenets of the institution itself (Chubb & Moe, 1990). For instance, new technologies often lead to the digitization of existing practices rather than to the creation of new learning opportunities and structural norms (McLeod, 2015). Leaders often adopt innovative reforms at a surface level and end up, unintentionally, validating existing practices.

The second challenge is the difficulty of targeting an education reform to the actual, rather than the idealized, context. Though surveys and interviews aim to uncover the pre- and post-reform landscape, the reality is that policymakers and researchers may not be able to determine the likelihood of success of reform efforts except through extensive, on-site observations and ruthless honesty (Honig, Venkateswaran, McNeil, & Twitchell, 2014). The consequence of not undertaking an honest needs assessment may lead to a mis-match between a reform and the existing structure's capacity to use it effectively.

I recently undertook a research project that illuminated both of these challenges and their negative consequences for successful implementation. The traditional instruments by which to understand organizational culture – namely, surveys and interviews – proved insufficient; they led me to overestimate the readiness of the systems to implement reform. By contrast, social network analysis combined with on-site observations enabled a much more accurate assessment of the on-the-ground reality – one which enabled me to better determine whether communities and micro-communities existed that could support the implementation of new policies. Below, I describe my intervention project and the use of new tools that can support the research-to-practice continuum.

Placing Intervention Clusters in Context

According to the *Worldwide Educating for the Future Index* (Walton, 2017), a non-partisan report that analyzed the inputs going into international education systems, nations with excellent K-12 systems possess high levels of human capital as indicated by the professionalization of the teaching sector.

Rather than existing within the control mechanisms of hierarchical bureaucracies, teachers in high-performing systems operate as members of a respected professional community (Walton, 2017).

This finding corroborates a 2010 report from McKinsey (Mourshed, Chijioke, & Barber, 2010) that identified professional communities as a critical component of excellent K-12 systems. The authors analyzed 20 international systems that had progressed along a continuum, from *Poor to Fair*, *Fair to Good*, *Good to Great*, and *Great to Excellent* — henceforth known as the McKinsey Continuum - to determine not only what led to systemic success but also how the systems implemented their chosen interventions to best effect. The systemic needs and the potential remedies change according to where the system exists on the McKinsey Continuum. Specifically, as systems progress from *poor to fair*, they must ensure that students achieve basic literacy and numeracy. When progressing from *fair to good*, financial, organizational, and accountability systems must become consolidated and centralized to increase accountability for student learning. Systems that are moving from *good to great* must ensure that teachers and principals emerge as professionals. *Excellent* systems exhibit distributed leadership as well as support for peer networks that, together, focus on sustaining innovation (Mourshed et al., 2010).

The McKinsey Continuum becomes quite useful in the real world. For instance, consider the Summit charter-school network in the U.S. and the Ontario school board in Canada. To begin their move from *good to great*, Summit has used computer-based instruction, instructional playlists, and scripted activities to develop skills such as problem solving and communication (World Economic Forum, 2015). This intervention cluster supports the formation of professional community and the development of a shared language of pedagogy (Mourshed et al., 2010). Ontario, however, had already progressed from *good to great to excellent* according to Mourshed et al. (2010). More recently, the *Worldwide Educating for the Future Index* describes Ontario's professionalization of the education sector as well as their development of a language of pedagogy and policy to support deeper learning (Walton, 2017). As such, the province can now leverage those existing structures to focus on intervention clusters that address the more complex issues of equity and innovation (Ontario Ministry of Education, 2017).

In my dissertation research, I recently discovered that a misalignment between intervention cluster and the systems' position on the McKinsey Continuum ultimately led to a failure of implementation. Unfortunately, I designed an intervention cluster that assumed the existence of distributed leadership and the presence of peer-to-peer communication networks to support professional communities (Holland, 2018) – which are capacities of *great* systems. Instead, I discovered *good* systems that were just beginning to move towards greatness.

An Intervention to Build Communication and Community

My intervention study aimed to improve communication between central-office and building leadership in two small, suburban districts in the Northeast. The goal was to help these leaders develop a shared language for *innovation* of classroom practice to prepare students for the knowledge economy. During the needs assessment, I collected survey responses from the Professional Learning Community Assessment – Revised (PLCA-R) scale (Olivier, Antoine, & Cormier, 2009) to

determine the degree to which participants perceived that they operated as a learning community. Despite the quantitative indication of community structures, through qualitative analysis I found that central office and school leaders often failed to clearly communicate a vision for instructional innovation to prepare students for the knowledge economy such that the ideas diffused throughout the social networks of the district's ecosystem (Rogers, 2004). The survey measure indicated that strong community structures already existed within the districts to support communication; and yet, participants resisted the intervention (Holland, 2018). They may have used buzzwords such as *personalized learning* or *21st century skills* to describe their efforts, but they lacked a language and practice that made sense of the theory in the real world of the classroom.

The needs assessment revealed that participants believed that they were collaborating and discussing innovation. However, the frequent use of jargon rather than a language of pedagogy indicated that existing structures were not sufficient for deeply discussing and describing the desired behaviors and beliefs about innovative student learning. To address this challenge, I designed a set of digital resources that would help leaders clearly articulate areas of improvement, better define problems, and brainstorm instructional practices that addressed deeper learning, personalized learning, or authentic learning. The intent was that, through collaboration facilitated by these digital resources, central office and building leaders would begin to develop common language, mental models, and shared vision — important tenets of organizational learning communities (Senge, 1990). Of note, the districts participating in the study reside in a high-performing state.

From Research to Reality

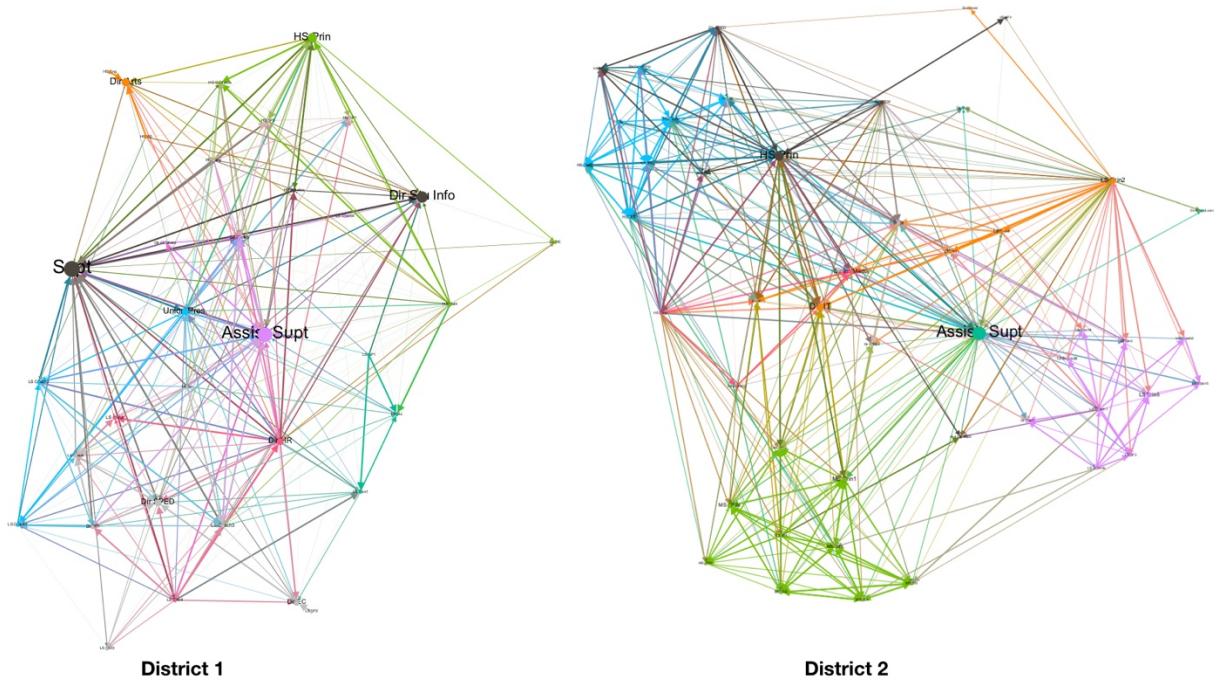
My intervention failed as few individuals participated. Despite the early presentation of community, stakeholders in both districts expressed concerns and resistance about sharing their thinking in a collaborative space. In-depth observations revealed that individuals did not want superiors or subordinates to know their thinking, and social network analysis determined that many of the communication traits of *great* systems simply did not exist (Holland, 2018). The lack of strong peer-to-peer networks served as an underlying factor for both the lack of responsiveness to the intervention as well as for the districts' inability to implement systemic change. I discovered this in spades when I conducted a social network analysis.

Social network theory explores the flow of communication throughout the social systems of large organizations – whether a healthcare system or a K-12 district (Daly, Finnigan, Moolenar, & Che, 2014). The patterns that emerge illustrate the positions of leaders, the existence of communities, as well as the associated power dynamics (Daly et al., 2014). Sociograms generated from social network analysis can illustrate "patterns of relationships… [that] may present dynamic tensions as these patterns can act as both opportunities and constraints for individual and collective action" (Daly et al., 2014, p. 15). When I analyzed the social networks of the districts, the underlying reasons for participant resistance became much clearer. To measure the effect of the intervention study on the quantity and quality of communication in the districts, I used the School Staff Social Network Questionnaire (SSSNQ) from Pitts and Spillane (2009). This instrument collected not only information regarding the advice-seeking networks between actors, but also the relative quality of those interactions (Pitts & Spillane, 2009). When analyzed in conjunction with qualitative

observations, they revealed power dynamics within the districts and the existence of micro-communities that worked both for and against collaboration.

In each district, the leaders represented by the largest nodes and who possessed the most number of connections – as indicated by the arrows - also held positions of authority. In District 1, the Assistant Superintendent and Superintendent possessed the most number of connections. The Assistant Superintendent in District 2 also emerged at the center of that network. This revelation implies that the districts still relied on central control. Further, when analyzed in conjunction with qualitative data, rather than implying that centrally positioned individuals assumed the role of knowledge brokers within the system (Daly et al., 2014), the networks illustrate the perpetuation of a hierarchical structure (Holland, 2018).

When comparing the two sociograms in the figure below, we can see a discrepancy in terms of the density and centrality of their connections. In District 1, most communication occurs between a few central actors, namely the Superintendent and Assistant Superintendent. Conversely, District 2 shows dense patterns within each division of the district (e.g. lower, middle, and high school). The denser network structure implies the presence of more frequent interactions. However, qualitative observations revealed that these concentrations illustrate the presence of collaborative communities in the lower and middle school divisions but a political faction within the high school. Prolonged observation further revealed that a system-wide professional community structure did not exist in either district to support the development of common language and the sharing of practice (Holland, 2018).



District 1 District 2

When I corroborated the qualitative observations with the sociograms, it became apparent that some of the most resistant participants in the districts also possessed the fewest social ties within the

networks (Holland, 2018). Crozier and Friedberg (1980) might describe this as a power function of the "zone of uncertainty" (p. 34). Retaining information can increase control, which subsequently increases an individual's sense of power. Transparency and sharing through communication then threatens that power. Similarly, when collaboration and transparency extend across the hierarchical layers of an organization, then it threatens the structural power that an individual retains based on their position (Bolman & Deal, 2008).

These power dynamics not only prevented leaders from operating within a community to support the development of common language, the promotion of inquiry, and the sharing of best practices, but also from developing into a high-performing system (Mourshed et al., 2010).

In contrast, the positionality of the leaders within the social networks could qualify them as boundary spanners between the layers of the hierarchy (Daly et al., 2014). In this role, they could serve as brokers of information, bridging the communication gaps between actors. When viewed as an opportunity to build the collective capacity of the organization, these brokers and boundary spanners might play a critical role in the development of shared understanding (Daly et al., 2014). And yet, since the central office leadership did not model the successful brokering of information, the new policy merely reinforced existing institutional norms (Honig et al., 2014).

Moving Forward

Based on the needs assessment data (surveys and interviews), I had assumed that a degree of transparency and trust existed within the districts. As such, my intervention intended to move these sites from *great* to *excellent* (Mourshed et al., 2010). The failure of my intervention, and subsequent analysis with social network theory, showed me that the system actually stood lower on the McKinsey Continuum. Surveys and interviews had only revealed the surface level adoption of critical practices. Had I realized the true composition of these districts, I would have taken a step backwards in the design of the intervention. Instead of providing digital resources that relied on collaboration, transparency, and trust, I would have used the social network data to identify the centrally positioned individuals in the community and then provided face-to-face coaching to help them build stronger social connections with their colleagues in support of change.

Why does this matter? Before beginning an intervention, researchers need to understand the reality on the ground. Surveys and interviews only go far; the sociograms generated by social network analysis provide a map of the existing structures that shed light on a system's capacity to take a new idea or practice on board. Prolonged observation and qualitative analysis can then triangulate findings to ensure a proper fit of reality to intervention.

This is also relevant to education policy. Leaders need to assess the social networks that might support the spread of new information or practices; identify those who can broker negotiations and translate policy into action; and be realistic about those individuals who might block the flow of ideas and create pockets of resistance (Daly et al., 2014). As educators progress from experimentation to institutionalization of new practices, they need the support of a positive

community (Frank, Zhao, Penuel, Ellefson, & Porter, 2011). Great systems leverage this positive community to support reform efforts and sustain innovation (Mourshed et al., 2010).

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